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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/552,228

**Applicant(s)**

PEETZ ET AL.

**Examiner**

BEN H. LIU

**Art Unit**

2464

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 March 2010.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-15 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO/SB/CD)  
Paper No(s)/Mail Date \_\_\_\_\_  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Amendment***

1. This is in response to an amendment/response filed on March 8<sup>th</sup>, 2010.
2. No claims have been amended.
3. No claims have been cancelled.
4. No claims have been added.
5. Claims 1-15 are currently pending.

### ***Double Patenting***

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claims 1-15 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of Du et al. (U.S. Patent No. 6,556,576) in view of Lewis (U.S. Patent 6,259,989) and Romans (U.S. Patent 6,665,520).

Although the conflicting claims are not identical, they are not patentably distinct from each other because they both teach a communication network with a first subnet and a second subnet and a bridge terminal for connecting the first and second subnets; wherein the bridge terminal is unavailable for the first subnet when it is operated in the second subnet; wherein the bridge terminal is unavailable for the second subnet when it is operated in the first subnet (*see claim 1*). Claim 1 does not teach signaling the switching operation. However, Lewis from the same or similar fields of endeavor discloses a wireless access point (*see figure 2, access point 19*) that communicates with different subsets of mobile stations (*see figure 1, MT 21*). The access point 19 broadcasts a beacon that indicates the availability of the access point (*see column 6 lines 48-59*). Thus, it would have been obvious to the person of ordinary skill in the art at the

time of the invention to use the beacon that indicates the availability of the access point as taught by Lewis with the system that communicates with two sets mobile terminals at different periods as taught by Du et al. The access point may use the beacon to indicate to one set of mobile terminals that the access point is no longer available when the access point is exclusively communicating with the other set of mobile terminals. The motivation for using the beacon that indicates the availability of an access point with the access point that provides exclusive access to each subset of users at different time periods is to improve the efficiency of the network by limiting the registration periods used by mobile terminals.

Du et al. and Lewis disclose all the subject matter of the claimed invention with the exception wherein signaling the switching operation and the unavailability of the bridge terminal specifically comprises a power saving signal of the communication network. However, Romans from the same or similar fields of endeavor discloses a control terminal in a wireless network that transmits control point beacon (CPB) (*see column 3 lines 29-49 and figures 1-4*). The control point beacon includes a wakeup flag that indicates whether a terminal should remain in active mode or return to a low power mode (*see column 6 lines 14-32 and figures 2-4*). Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to use the beacon that indicates whether a terminal should remain in wakeup mode or return to a lower power mode as taught by Romans with the system that communicates with two sets mobile terminals at different periods as taught by Du et al. and Lewis. The beacon that indicates the switching operation as taught by Du et al. and Lewis can be configured to indicate that a terminal should return to a lower power mode as taught by Romans when the access point is unavailable for that terminal. The motivation for using the beacon that indicates whether a terminal should

remain in wakeup mode or return to a lower power mode as taught by Romans with the system that communicates with two sets mobile terminals at different periods as taught by Du et al. and Lewis is to improve the efficiency of the system by allowing terminals to use a low power mode when communication with the access point is unavailable.

8. Claims 1-15 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-18 of Du et al. (U.S. Patent No. 7,457,298) in view of Lewis (U.S. Patent 6,259,989) and Romans (U.S. Patent 6,665,520).

Although the conflicting claims are not identical, they are not patentably distinct from each other because they both teach a communication network with a first subnet and a second subnet and a bridge terminal for connecting the first and second subnets; wherein the bridge terminal is unavailable for the first subnet when it is operated in the second subnet; wherein the bridge terminal is unavailable for the second subnet when it is operated in the first subnet (*see claim 1*). Claim 1 does not teach signaling the switching operation. However, Lewis from the same or similar fields of endeavor discloses a wireless access point (*see figure 2, access point 19*) that communicates with different subsets of mobile stations (*see figure 1, MT 21*). The access point 19 broadcasts a beacon that indicates the availability of the access point (*see column 6 lines 48-59*). Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to use the beacon that indicates the availability of the access point as taught by Lewis with the system that communicates with two sets mobile terminals at different periods as taught by Du et al. The access point may use the beacon to indicate to one set of mobile terminals that the access point is no longer available when the access point is exclusively

communicating with the other set of mobile terminals. The motivation for using the beacon that indicates the availability of an access point with the access point that provides exclusive access to each subset of users at different time periods is to improve the efficiency of the network by limiting the registration periods used by mobile terminals.

Du et al. and Lewis disclose all the subject matter of the claimed invention with the exception wherein signaling the switching operation and the unavailability of the bridge terminal specifically comprises a power saving signal of the communication network. However, Romans from the same or similar fields of endeavor discloses a control terminal in a wireless network that transmits control point beacon (CPB) (*see column 3 lines 29-49 and figures 1-4*). The control point beacon includes a wakeup flag that indicates whether a terminal should remain in active mode or return to a low power mode (*see column 6 lines 14-32 and figures 2-4*). Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to use the beacon that indicates whether a terminal should remain in wakeup mode or return to a lower power mode as taught by Romans with the system that communicates with two sets mobile terminals at different periods as taught by Du et al. and Lewis. The beacon that indicates the switching operation as taught by Du et al. and Lewis can be configured to indicate that a terminal should return to a lower power mode as taught by Romans when the access point is unavailable for that terminal. The motivation for using the beacon that indicates whether a terminal should remain in wakeup mode or return to a lower power mode as taught by Romans with the system that communicates with two sets mobile terminals at different periods as taught by Du et al. and Lewis is to improve the efficiency of the system by allowing terminals to use a low power mode when communication with the access point is unavailable.

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).



12. Claims 1-2, 5-6, 9-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ekl et al. (U.S. Patent 6,816,502) in view of Lewis (U.S. Patent 6,259,898) and Romans (U.S. Patent 6,665,520).

**For claim 1**, Ekl et al. disclose a method of connecting a first subnet and a second subnet of a communication network by means of a bridge terminal, wherein the first subnet operates on a first frequency channel and the second subnet operates on a second frequency channel (*see column 2 lines 1-5, which recite an access point AP100 that communicates with at least two sets of users wherein the different sets of users operate on different frequency channels*), the method comprising the steps of: switching an operation of the bridge terminal between an operation in the first subnet on the first frequency channel and an operation in the second subnet on the second frequency channel; wherein the bridge terminal is unavailable for the first subnet when it is operated in the second subnet; wherein the bridge terminal is unavailable for the second subnet when it is operated in the first subnet (*see figure 2, which recite the access point communicating exclusively with one set of users before communicating exclusively with another set of users*).

Ekl et al. disclose all the subject matter of the claimed invention with the exception of signaling the switching operation. However, Lewis from the same or similar fields of endeavor discloses a wireless access point (*see figure 2, access point 19*) that communicates with different subsets of mobile stations (*see figure 1, MT 21*). The access point 19 broadcasts a beacon that indicates the availability of the access point (*see column 6 lines 48-59*). Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to use the beacon that indicates the availability of the access point as taught by Lewis with the system that communicates with two sets mobile terminals at different periods as taught by Ekl et al. The

access point that provides exclusive access to each subset of mobile terminals at different time periods as taught by Ekl et al. can be configured to broadcast the beacon that indicates the availability of the access point as taught by Lewis when the access point alternates access between the different user groups to indicate the switching operation. Since the access point as taught by Ekl et al. provides communication exclusively with one set of mobile terminals at while remaining unavailable for the other set of mobile terminals, a beacon that indicates availability of the access point for one set of mobile terminals conversely indicates that the access point is unavailable for the second set of mobile terminals. Thus, the access point may use the beacon to indicate to one set of mobile terminals that the access point is no longer available when the access point is exclusively communicating with the other set of mobile terminals. The motivation for using the beacon that indicates the availability of an access point with the access point that provides exclusive access to each subset of users at different time periods is to improve the efficiency of the network by limiting the registration periods used by mobile terminals.

Ekl et al. and Lewis disclose all the subject matter of the claimed invention with the exception wherein signaling the switching operation and the unavailability of the bridge terminal specifically comprises a power saving signal of the communication network. However, Romans from the same or similar fields of endeavor discloses a control terminal in a wireless network that transmits control point beacon (CPB) (*see column 3 lines 29-49 and figures 1-4*). The control point beacon includes a wakeup flag that indicates whether a terminal should remain in active mode or return to a low power mode (*see column 6 lines 14-32 and figures 2-4*). Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to

use the beacon that indicates whether a terminal should remain in wakeup mode or return to a lower power mode as taught by Romans with the system that communicates with two sets mobile terminals at different periods as taught by Ekl et al. and Lewis. The beacon that indicates the switching operation as taught by Ekl et al. and Lewis can be configured to indicate that a terminal should return to a lower power mode as taught by Romans when the access point is unavailable for that terminal. The motivation for using the beacon that indicates whether a terminal should remain in wakeup mode or return to a lower power mode as taught by Romans with the system that communicates with two sets mobile terminals at different periods as taught by Ekl et al. and Lewis is to improve the efficiency of the system by allowing terminals to use a low power mode when communication with the access point is unavailable.

**For claims 2, 6, and 10,** Ekl et al. disclose a method of connecting a first subnet and a second subnet of a communication network by means of a bridge terminal, wherein the communication network is a packet transmission network in accordance with the IEEE 802.11 standard (*see column 1 lines 11-17*).

**For claim 5,** Ekl et al. disclose a Bridge terminal for connecting a first subnet and a second subnet of a communication network, wherein the first subnet operates on a first frequency channel and the second subnet operates on a second frequency channel (*see column 2 lines 1-5, which recite an access point AP100 that communicates with at least two sets of users wherein the different sets of users operate on different frequency channels*), wherein an operation of the bridge terminal is switches between an operation in the first subnet on the first frequency channel and an operation in the second subnet on the second frequency channel; wherein the bridge terminal is unavailable for the first subnet when it is operated in the second subnet; wherein the

bridge terminal is unavailable for the second subnet when it is operated in the first subnet; wherein the unavailability of the bridge terminal is signaled by means of a power saving signal of the communication network (*see figure 2, which recite the access point communicating exclusively with one set of users before communicating exclusively with another set of users*).

Ekl et al. disclose all the subject matter of the claimed invention with the exception of signaling the switching operation. However, Lewis from the same or similar fields of endeavor discloses a wireless access point (*see figure 2, access point 19*) that communicates with different subsets of mobile stations (*see figure 1, MT 21*). The access point 19 broadcasts a beacon that indicates the availability of the access point (*see column 6 lines 48-59*). Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to use the beacon that indicates the availability of the access point as taught by Lewis with the system that communicates with two sets mobile terminals at different periods as taught by Ekl et al. The access point that provides exclusive access to each subset of mobile terminals at different time periods as taught by Ekl et al. can be configured to broadcast the beacon that indicates the availability of the access point as taught by Lewis when the access point alternates access between the different user groups to indicate the switching operation. Since the access point as taught by Ekl et al. provides communication exclusively with one set of mobile terminals at while remaining unavailable for the other set of mobile terminals, a beacon that indicates availability of the access point for one set of mobile terminals conversely indicates that the access point is unavailable for the second set of mobile terminals. Thus, the access point may use the beacon to indicate to one set of mobile terminals that the access point is no longer available when the access point is exclusively communicating with the other set of mobile

terminals. The motivation for using the beacon that indicates the availability of an access point with the access point that provides exclusive access to each subset of users at different time periods is to improve the efficiency of the network by limiting the registration periods used by mobile terminals.

Ekl et al. and Lewis disclose all the subject matter of the claimed invention with the exception wherein signaling the switching operation and the unavailability of the bridge terminal specifically comprises a power saving signal of the communication network. However, Romans from the same or similar fields of endeavor discloses a control terminal in a wireless network that transmits control point beacon (CPB) (*see column 3 lines 29-49 and figures 1-4*). The control point beacon includes a wakeup flag that indicates whether a terminal should remain in active mode or return to a low power mode (*see column 6 lines 14-32 and figures 2-4*). Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to use the beacon that indicates whether a terminal should remain in wakeup mode or return to a lower power mode as taught by Romans with the system that communicates with two sets mobile terminals at different periods as taught by Ekl et al. and Lewis. The beacon that indicates the switching operation as taught by Ekl et al. and Lewis can be configured to indicate that a terminal should return to a lower power mode as taught by Romans when the access point is unavailable for that terminal. The motivation for using the beacon that indicates whether a terminal should remain in wakeup mode or return to a lower power mode as taught by Romans with the system that communicates with two sets mobile terminals at different periods as taught by Ekl et al. and Lewis is to improve the efficiency of the system by allowing terminals to use a low power mode when communication with the access point is unavailable.

**For claim 9,** Ekl et al. disclose a communication network with a first subnet and a second subnet and a bridge terminal for connecting the first and second subnets, wherein the first subnet operates on a first frequency channel and the second subnet operates on a second frequency channel (*see column 2 lines 1-5, which recite an access point AP100 that communicates with at least two sets of users wherein the different sets of users operate on different frequency channels*); wherein an operation of the bridge terminal is switched between an operation in the first subnet on the first frequency channel and an operation in the second subnet on the second frequency channel; wherein the bridge terminal is unavailable for the first subnet when it is operated in the second subnet; wherein the bridge terminal is unavailable for the second subnet when it is operated in the first subnet; wherein the unavailability of the bridge terminal is signaled by means of a power saving signals of the communication network (*see figure 2, which recite the access point communicating exclusively with one set of users before communicating exclusively with another set of users*).

Ekl et al. disclose all the subject matter of the claimed invention with the exception of signaling the switching operation. However, Lewis from the same or similar fields of endeavor discloses a wireless access point (*see figure 2, access point 19*) that communicates with different subsets of mobile stations (*see figure 1, MT 21*). The access point 19 broadcasts a beacon that indicates the availability of the access point (*see column 6 lines 48-59*). Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to use the beacon that indicates the availability of the access point as taught by Lewis with the system that communicates with two sets mobile terminals at different periods as taught by Ekl et al. The access point that provides exclusive access to each subset of mobile terminals at different time

periods as taught by Ekl et al. can be configured to broadcast the beacon that indicates the availability of the access point as taught by Lewis when the access point alternates access between the different user groups to indicate the switching operation. Since the access point as taught by Ekl et al. provides communication exclusively with one set of mobile terminals at while remaining unavailable for the other set of mobile terminals, a beacon that indicates availability of the access point for one set of mobile terminals conversely indicates that the access point is unavailable for the second set of mobile terminals. Thus, the access point may use the beacon to indicate to one set of mobile terminals that the access point is no longer available when the access point is exclusively communicating with the other set of mobile terminals. The motivation for using the beacon that indicates the availability of an access point with the access point that provides exclusive access to each subset of users at different time periods is to improve the efficiency of the network by limiting the registration periods used by mobile terminals.

Ekl et al. and Lewis disclose all the subject matter of the claimed invention with the exception wherein signaling the switching operation and the unavailability of the bridge terminal specifically comprises a power saving signal of the communication network. However, Romans from the same or similar fields of endeavor discloses a control terminal in a wireless network that transmits control point beacon (CPB) (*see column 3 lines 29-49 and figures 1-4*). The control point beacon includes a wakeup flag that indicates whether a terminal should remain in active mode or return to a low power mode (*see column 6 lines 14-32 and figures 2-4*). Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to use the beacon that indicates whether a terminal should remain in wakeup mode or return to a

lower power mode as taught by Romans with the system that communicates with two sets mobile terminals at different periods as taught by Ekl et al. and Lewis. The beacon that indicates the switching operation as taught by Ekl et al. and Lewis can be configured to indicate that a terminal should return to a lower power mode as taught by Romans when the access point is unavailable for that terminal. The motivation for using the beacon that indicates whether a terminal should remain in wakeup mode or return to a lower power mode as taught by Romans with the system that communicates with two sets mobile terminals at different periods as taught by Ekl et al. and Lewis is to improve the efficiency of the system by allowing terminals to use a low power mode when communication with the access point is unavailable.

**For claim 11,** Elk et al. disclose a machine readable medium having stored thereon machine executable instructions (*see column 6 lines 45-62*) that, when executed, implement a method for operating a bridge terminal of a communication network for connecting a first subnet and a second subnet, wherein the first subnet operates on a first frequency channel and the second subnet operates on a second frequency channel (*see column 2 lines 1-5, which recite an access point AP100 that communicates with at least two sets of users wherein the different sets of users operate on different frequency channels*), wherein, when the instructions are executed on the bridge terminal, the instructions cause the bridge terminal to perform the following steps: switching an operation of the bridge terminal between an operation in the first subnet on the first frequency channel and an operation in the second subnet on the second frequency channel; wherein the bridge terminal is unavailable for the first subnet when it is operated in the second subnet; wherein the bridge terminal is unavailable for the second subnet when it is operated in the first subnet; signaling the unavailability of the bridge terminal by means of a power saving



signals of the communication network (*see figure 2, which recite the access point communicating exclusively with one set of users before communicating exclusively with another set of users*).

Ekl et al. disclose all the subject matter of the claimed invention with the exception of signaling the switching operation. However, Lewis from the same or similar fields of endeavor discloses a wireless access point (*see figure 2, access point 19*) that communicates with different subsets of mobile stations (*see figure 1, MT 21*). The access point 19 broadcasts a beacon that indicates the availability of the access point (*see column 6 lines 48-59*). Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to use the beacon that indicates the availability of the access point as taught by Lewis with the system that communicates with two sets mobile terminals at different periods as taught by Ekl et al. The access point that provides exclusive access to each subset of mobile terminals at different time periods as taught by Ekl et al. can be configured to broadcast the beacon that indicates the availability of the access point as taught by Lewis when the access point alternates access between the different user groups to indicate the switching operation. Since the access point as taught by Ekl et al. provides communication exclusively with one set of mobile terminals at while remaining unavailable for the other set of mobile terminals, a beacon that indicates availability of the access point for one set of mobile terminals conversely indicates that the access point is unavailable for the second set of mobile terminals. Thus, the access point may use the beacon to indicate to one set of mobile terminals that the access point is no longer available when the access point is exclusively communicating with the other set of mobile terminals. The motivation for using the beacon that indicates the availability of an access point

with the access point that provides exclusive access to each subset of users at different time periods is to improve the efficiency of the network by limiting the registration periods used by mobile terminals.

Ekl et al. and Lewis disclose all the subject matter of the claimed invention with the exception wherein signaling the switching operation and the unavailability of the bridge terminal specifically comprises a power saving signal of the communication network. However, Romans from the same or similar fields of endeavor discloses a control terminal in a wireless network that transmits control point beacon (CPB) (*see column 3 lines 29-49 and figures 1-4*). The control point beacon includes a wakeup flag that indicates whether a terminal should remain in active mode or return to a low power mode (*see column 6 lines 14-32 and figures 2-4*). Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to use the beacon that indicates whether a terminal should remain in wakeup mode or return to a lower power mode as taught by Romans with the system that communicates with two sets mobile terminals at different periods as taught by Ekl et al. and Lewis. The beacon that indicates the switching operation as taught by Ekl et al. and Lewis can be configured to indicate that a terminal should return to a lower power mode as taught by Romans when the access point is unavailable for that terminal. The motivation for using the beacon that indicates whether a terminal should remain in wakeup mode or return to a lower power mode as taught by Romans with the system that communicates with two sets mobile terminals at different periods as taught by Ekl et al. and Lewis is to improve the efficiency of the system by allowing terminals to use a low power mode when communication with the access point is unavailable.

**For claims 12-15**, Ekl et al. disclose a method of connecting a first subnet and a second subnet of a communication network by means of a bridge terminal, wherein a presence time of the bridge terminal in each of the subnets is set to a mean presence time, a presence time is equal for both the first subnet and the second subnet, thereby avoiding delays in data transmission (*see column 3 lines 58-67 and column 4 lines 1-18, which recite the amount of time the access point communicates with each set of mobile terminals is potentially but not necessarily equal*).

13. Claims 3 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ekl et al. (U.S. Patent 6,816,502), Lewis (U.S. Patent 6,259,898), and Romans (U.S. Patent 6,665,520) as applied to claims 1 and 5 and further in view of Adachi (U.S. Patent 6,018,642).

**For claims 3 and 7**, Ekl et al., Lewis, and Romans disclose a method of connecting a first subnet and a second subnet of a communication network by means of a bridge terminal, wherein the operation of the bridge terminal is switches periodically between the first and second subnets such that the bridge terminal is operated in each of the first and second subnets for a predetermined duration (*see abstract and figure 4*). Ekl et al., Lewis, and Romans do not specifically disclose the method wherein jitters in the predetermined duration are compensated over a plurality of switching cycles by controlling the switching. However, Adachi from the same or similar fields of endeavor disclose a communication system comprising a base station and two sets of mobile stations (*see figure 1, 5, and column 3 lines 36-67*). The base station compensates for jitter that occurs during the periods of operation with the mobile stations (*see column 18 lines 60-67 and column 19 lines 1-23*). Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to implement the base station that

compensates for jitter as taught by Adachi with the method of connecting a first subnet and a second subnet of a communication network by means of a bridge terminal as taught by Ekl et al., Lewis, and Romans. The base station that compensates for jitter can be implemented by configuring the access points as taught by Ekl et al. to compensate for jitter as suggested by Adachi. The motivation for using the base station that compensates for jitter as suggested by Adachi with the method of connecting a first subnet and a second subnet of a communication network by means of a bridge terminal is to improve the efficiency of the system by preventing delay in the data transmission.

14. Claims 4 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ekl et al. (U.S. Patent 6,816,502) in view of Lewis (U.S. Patent 6,259,898) and Romans (U.S. Patent 6,665,520) as applied to claims 1 and 5 and further in view of admitted prior art.

**For claims 4 and 8**, Ekl et al., Lewis, and Romans disclose a method of connecting a first subnet and a second subnet of a communication network by means of a bridge terminal. Ekl et al. and Lewis does not disclose the method wherein a content of missed beacon signals is reported by the bridge terminal by means of a probe/probe signaling. However, the admitted prior art discloses a probe-P/response mechanism provided by the IEEE 802.11 standard in the case of a missed beacon (*see page 12 lines 2-10*). Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to use the probe-P/response mechanism as provided by the IEEE 802.11 standard with the method of connecting a first subnet and a second subnet of a communication network by means of a bridge terminal as taught by Ekl et al. and Lewis. The probe-P/response mechanism can be implemented by ensuring that

the method for connecting a first subnet and a second subnet of a communication network by means of a bridge terminal complies the IEEE 802.11 standard. The motivation for using the IEEE 802.11 standard and provided probe-P/response mechanism with the method of connecting a first subnet and a second subnet of a communication network by means of a bridge terminal is to ensure that the method is compatible with a wide range of wireless devices.

### *Response to Arguments*

15. Initially, the Applicants allege that there is an inconsistency in the Office Action dated on December 8<sup>th</sup>, 2009. On pages 6 and 7 of the Applicants' remarks, the Applicants argue o:

On page 8 of the Office action, it is stated that Lewis allegedly discloses the feature cited above by asserting that the access point (19) broadcasts a beacon signal that indicates the availability of the access point. However, on page 9 of the Office action, it is stated that the Elk and Lewis disclose all the subject matter of the claimed invention with the exception of the feature of signaling the switching operation. Thus, it is admitted that Lewis lacks of any teaching of this claimed feature. Regardless of this inconsistency with regard to Lewis, it is respectfully submitted that neither Lewis nor Romans show, teach or even suggest "signaling the switching operation" as claimed by the Applicant.

For reference, it is noted that claim 1 lines 10-11 recite the limitation:

Signaling the switching operation and the unavailability of the bridge terminal by means of a power saving signal of the communication network.

As will be described in further detail below, the cited limitation is rejected using a combination of Ekl et al., Lewis, and Romans. Specifically, the first underlined portion of the limitation, which states, "Signaling the switching operation and the unavailability of the bridge terminal..." is rejected using a combination of Ekl et al. and Lewis. The second underlined

portion of the limitation further limits the signaling to be "...by means of a power saving signal of the communication network." The second portion of the limitation, which specifically defines the signaling as a power saving signal, is rejected using the additional citations of Romans. Thus, the rejection of both portions of the claim limitation relies a combination of Ekl et al., Lewis, and Romans. A detailed explanation is provided below.

Page 8 of the Office Action as referred by the Applicants, specifically state:

Ekl et al. disclose all the subject matter of the claimed invention **with the exception of signaling the switching operation**. However, Lewis from the same or similar fields of endeavor discloses a wireless access point (*see figure 2, access point 19*) that communicates with different subsets of mobile stations (*see figure 1, MT 21*) (*emphasis added*).

That is, in page 8 of the Office Action, it is acknowledged that Ekl et al. does not teach the signaling of the switching operation (the first underlined portion of the cited claim language). However, Lewis is cited as disclosing an access point 19 that broadcasts a beacon to indicate its availability (*see column 6 lines 48-59*). Thus, the combination of Ekl et al. and Lewis discloses a bridge terminal that signals the switching operation as recited by the independent claims.

Page 9 of the Office Action as referred by the Applicants, specifically state:

Ekl et al. and Lewis disclose all the subject matter of the claimed invention with the exception **wherein signaling the switching operation and the unavailability of the bridge terminal specifically comprises a power saving signal of the communication network** (*emphasis added*).

In page 9 of the Office Action, it is acknowledged that the signaling of the switching operation, as disclosed by the combination of Ekl et al. and Lewis, is not specifically a power saving signal of the communication network (the second underlined

portion of the cited claim language). Thus, while Ekl et al. and Lewis discloses a signaling of the switching operation using a beacon, that signaling is not a power saving signal. However, Romans is cited as disclosing a control point beacon that includes a wakeup flag which indicates whether a terminal should remain in active mode or return to a low power mode (*see column 6 lines 14-32 and figures 2-4*). Thus, the access point that signals of the switching operation, as disclosed by the combination of Ekl et al. and Lewis, is combined with the control beacon that includes a wakeup flag as disclosed by Romans. The combination of Ekl et al., Lewis, and Romans disclose an access point (*see Ekl et al.*) that signals the switching operation (*see Lewis*), wherein the signaling operation is specifically a power saving signal (*see Romans*).

Regarding the Lewis reference, the Applicants assert on page 7 of the Applicants' remarks:

Therefore, the process of modifying the beacon and/or the modified beacon itself clearly cannot be interpreted as the claimed feature of signaling the switching operation and the unavailability of the bridge terminal by means of a power saving signal of the communication network. The beacon is not a power saving signal of the communication network, but rather a signal generated by the access point to indicate whether a registration request can be accepted from mobile networks.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). As noted above, Romans, rather than Lewis, is cited as disclosing a power saving signal.

The Applicants further assert on page 7 of the Applicants' remarks:

In addition, the beacon indicates that only one transceiver is not available for registration, but at the same time the other transceiver can accept registration requests from mobile terminals. That is, the access point is always available to all mobile terminals in the network. In direct contrast, the bridge terminal, recited in the claims, is available only either to a first subnet or a second subnet at a time. Therefore, the beacon, as disclosed by Lewis, does not signal the switching operation between subsets and further does not signal the unavailability for the first subnet when operating in the second subnet, as claimed by the Applicant.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Specifically, Ekl et al. disclose an access point that provides exclusive access to one of two network groups. Further, Lewis discloses a beacon that indicates whether a network node can register with an access point or not. In rejecting the claim, the access point that provides exclusive access to one of two network groups as taught by Ekl et al. is combined with the beacon that signals a switching operation between two network groups as taught by Lewis. When the access point that provides exclusive access between one of two network groups as disclosed by Ekl et al. transmits a beacon to signal that a first network group has access to the access point, the beacon effectively indicates that the access point is unavailable for the second network group. Alternatively, when the access point as disclosed by Ekl et al. transmits a beacon to signal that a second network group has access to the access point, the beacon effectively indicates that the access point is unavailable for the first network group.

Regarding the Romans reference, the Applicants further assert on page 8 of the Applicants' remarks:



In direct contrast, in the claimed invention, the bridge terminal signals its switching operation between the subsets. For example, if the bridge signals to the first subnet that it is unavailable, a device in the first subnet cannot send data through the bridge until the bridge signals becomes available again to the first subnet.

The Applicants state that the claims recite a bridge terminal that signals its switching operation between the subsets. As noted above, the access point that provides exclusive access for one of two network node groups as taught by Ekl et al. is combined with the beacon that signals a switching operation between two network groups as taught by Lewis. Thus, the combination of the access point as taught by Ekl et al. with beacon signal as taught by Lewis is interpreted as the bridge terminal that signals its switching operation between the subsets as recited by the independent claims.

The Applicants further assert on page 8 of the Applicants' remarks:

Therefore, the CPB beacon of Romans and the power saving signal recited in the claims are used for two complete different purposes. Again, Romans CPB signals to stations whether or not they should stay in a sleep mode, whereas the claimed invention teaches a power saving signal for signaling the switching operation of the bridge terminal with respect to the first and second subnets.

Again, it is noted that claim 1 lines 10-11 recite:

Signaling the switching operation and the unavailability of the bridge terminal by means of a power saving signal of the communication network.

As noted above, the access point that provides exclusive access for one of two network node groups as taught by Ekl et al. is combined with the beacon that signals a switching operation between two network groups as taught by Lewis. Thus, the combination of Ekl et al. and Lewis discloses a bridge terminal that signals the switching operation as recited by the first underlined portion of claim 1. Also noted above, Romans

is cited as disclosing a control point beacon that includes a wakeup flag which indicates whether a terminal should remain in active mode or return to a low power mode. Using the broadest reasonable interpretation, the control point beacon that includes a wakeup flag as taught by Romans is interpreted as a power saving signal of the communication network as recited by the independent claims. Thus, the access point that signals of the switching operation, as disclosed by the combination of Ekl et al. and Lewis, is combined to use the control beacon that includes a wakeup flag as disclosed by Romans. The combination of Ekl et al., Lewis, and Romans disclose an access point (*see Ekl et al.*) that signals the switching operation (*see Lewis*), wherein the signaling operation is specifically a power saving signal (*see Romans*) as recited by the independent claims.

For the reasons provided above, the Applicant's arguments regarding the independent claims are not persuasive. The Applicant further argues that the dependent claims are patentable by virtue of their dependencies. Since the Applicant's arguments regarding the independent claims are not persuasive, the dependent claims are not allowable.

16. Claims 1-15 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of Du et al. (U.S. Patent No. 6,556,576) in view of Lewis (U.S. Patent 6,259,989) and Romans (U.S. Patent 6,665,520). Claims 1-15 are also rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-18 of Du et al. (U.S. Patent No. 7,457,298) in view of Lewis (U.S. Patent 6,259,989) and Romans (U.S. Patent 6,665,520). The Applicant attempts to traverse the rejection using the arguments regarding the Lewis and Romans references as discussed above.

Since the Applicant's arguments regarding the independent claims are not persuasive, the nonstatutory obviousness-type double patenting rejections of claims 1-15 remain.

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BEN H. LIU whose telephone number is (571)270-3118. The examiner can normally be reached on 9:00AM to 6:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571)272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications

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may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ricky Ngo/  
Supervisory Patent Examiner, Art Unit  
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BL